

### Amendments to the Claims

Please replace the claims with the following:

1. (Currently amended) An expander system for radially expanding a tubular element having an unexpanded portion of a first inner diameter, the expander system including an expander movable between a radially retracted mode and a radially expanded mode, wherein the expander includes an expander body having first and second body ends and a tapering expansion surface extending in an axial direction of the expander, the expansion surface being operable to expand the tubular element from said first inner diameter to a second inner diameter larger than the first inner diameter by movement of the expander from the retracted mode to the expanded mode thereof, said expansion surface being of increasing diameter in said axial direction of the expander;

wherein the expander body is provided with a plurality of longitudinal slots spaced about the circumference of the expander body, each slot having first and second ends, wherein each pair of adjacent slots defines a body segment therebetween, and wherein each slot end is spaced an axial distance from a respective body end; and

wherein the expander includes a contact surface for contacting the inner surface of the tubular element, said contact surface having a largest diameter that is larger than said first inner diameter and a smallest diameter that is smaller than said first inner diameter when the expander is in the radially retracted mode thereof.

2. (Canceled)

3. (Canceled)

4. (Currently amended) The expansion system of claim 1-2, wherein said contact surface forms at least part of the expansion surface.

5. (Previously presented) The expander system of claim 1, wherein the expansion surface is of continuously increasing diameter in axial direction of the expander.

6. (Original) The expander system of claim 1, wherein the expansion surface has a frustoconical shape.

7. (Currently amended) An expander system for radially expanding a tubular element having an unexpanded portion of a first inner diameter, the expander system including an expander movable between a radially retracted mode and a radially expanded mode, wherein the expander includes an expander body having first and second body ends and a tapering expansion surface extending in an axial direction of the expander, the expansion surface being operable to expand the tubular element from said first inner diameter to a second inner diameter larger than the first inner diameter by movement of the expander from the retracted mode to the expanded mode thereof, said expansion surface being of increasing diameter in said axial direction of the expander;

wherein the expander body is provided with a plurality of longitudinal slots spaced about the circumference of the expander body, each slot having first and second ends, wherein each pair of adjacent slots defines a body segment therebetween, and wherein each slot end is spaced an axial distance from a respective body end; and

The expander system of claim 1, wherein said expansion surface is arranged to move radially outward in substantially uniform manner along the length of the expansion surface upon movement of the expander from the retracted mode to the expanded mode thereof.

8. (Previously presented) The expander system of claim 1, wherein the expander comprises an expander body including a plurality of body segments spaced along the circumference of the expander body, each segment extending in longitudinal direction of the expander and being movable between a radially retracted position and a radially expanded position.

9. (Canceled) .

10. (Previously presented) The expander system of claim 8, wherein each body segment is at both ends thereof integrally formed with the expander body.

11. (Previously presented) The expander system of claim 8, wherein the expander body is a tubular expander body, and wherein the expander includes an inflatable fluid chamber arranged within the tubular expander body so as to move each body segment radially outward upon inflation of the fluid chamber.

12. (Original) The expander system of claim 11, wherein said fluid chamber is formed within an inflatable bladder arranged within the tubular body.

13. (Previously presented) An expander system for radially expanding a tubular element having an unexpanded portion of a first inner diameter, the expander system including an expander movable between a radially retracted mode and a radially expanded mode, wherein the expander includes a tapering expansion surface extending in an axial direction of the expander, the expansion surface being operable to expand the tubular element from said first inner diameter to a second inner diameter larger than the first inner diameter by movement of the expander from the retracted mode to the expanded mode thereof, said expansion surface being of increasing diameter in said axial direction of the expander;

wherein the expander comprises:

a tubular expander body including a plurality of body segments spaced along the circumference of the expander body, each segment extending in longitudinal direction of the expander and being movable between a radially retracted position and a radially expanded position;

an inflatable fluid chamber arranged within the tubular expander body so as to move each body segment radially outward upon inflation of the fluid chamber; and

a fluid flow control system for controlling inflow of fluid into the fluid chamber and/or outflow of fluid from the fluid chamber.

14. (Original) The expander system of claim 13, wherein the fluid flow control system is arranged to control said fluid inflow and said fluid outflow in alternating mode.

15. (Previously presented) The expander system of claim 13, wherein the fluid control system includes a valve for controlling outflow of fluid from the inflatable fluid chamber.

16. (Original) The expander system of claim 15, wherein the valve is provided with electric control means arranged to control the valve.

17. (Original) The expander system of claim 16, wherein the electric control means comprises an electric conductor extending through a conduit for the transfer of fluid to or from the inflatable fluid chamber.

18. (Previously presented) The expander system of claim 1, wherein the tubular element extends into a borehole formed in an earth formation, and wherein the expander is arranged within the tubular element.

19. (Previously presented) A method of radially expanding a tubular element using the expander system for radially expanding a tubular element having an unexpanded portion of a first inner diameter, the expander system including an expander movable between a radially retracted mode and a radially expanded mode, wherein the expander includes a tapering expansion surface extending in axial direction of the expander, the expansion surface being operable to expand the tubular element from said first inner diameter to a second inner diameter larger than the first inner diameter by movement of the expander from the retracted mode to the expanded mode thereof, said expansion surface being of increasing diameter in axial direction of the expander, comprising the steps of:

- a) arranging the expander within the tubular element;
- b) moving the expander from the retracted mode to the expanded mode thereof so as to expand the tubular element;
- c) moving the expander from the expanded mode to the retracted mode thereof;
- d) allowing the expander to move a selected distance through the tubular element by the action of an axial force exerted to the expander, said selected distance being smaller than the length of the expansion surface in axial direction of the expander; and

e) repeating steps b)-d) until the expander has expanded the tubular element or a desired portion thereof, from the first diameter to the second diameter.

20. (Cancelled)

21. (Cancelled)